

EXHIBIT 13

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON
CASE NO. 15-cv-00201-SMJ

CITY OF SPOKANE, a municipal :
corporation, located in the :
County of Spokane, State of :
Washington, :

Plaintiff, :

vs. :

MONSANTO CORPORATION, :
SOLUTIA, INC., and PHARMACIA :
CORPORATION, and DOES 1 :
through 100, :

Defendants. :

Deposition of RICHARD DEGRANDCHAMP,
Ph.D. taken in the above-entitled matter before
Suzanne J. Stotz, a Certified Realtime
Reporter, Registered Professional Reporter, and
Notary Public of the State of Colorado, taken
at the offices of Shook, Hardy & Bacon, LLP,
1660 17th Street, Suite 450, Denver, Colorado
80202, on November 19, 2019, commencing at 9:17
a.m.

Job No. 171877

1 RICHARD DeGRANDCHAMP, Ph.D.

2 A. Ultimately, human exposures, that's
3 correct.

4 Q. All right. Have you made any
5 attempt to correlate a decline -- a rate of
6 decline of PCBs to the Spokane River that will
7 result in any particular percentage of decline
8 in an individual's blood level?

9 A. In an individual, no.

10 Q. How about on a population basis?

11 A. I haven't done that yet.

12 Q. Have you made any estimate of any
13 individual's body burden of PCBs from the
14 Spokane River -- let me ask that a different
15 way.

16 Have you made any effort to estimate
17 the proportion of PCBs in an individual who
18 consumes fish from the river attributable to
19 PCBs from those fish?

20 A. I have not included that in my
21 report, no.

22 Q. Have you been asked to comment as an
23 expert witness in this case on any statement or
24 publication issued by the American Council for
25 Science and Health?

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2 much people are exposed to. I care about their
3 final body burden at any one point.

4 So all I'm saying is -- you read
5 that correctly. If that's what you want --

6 Q. Yeah, that's --

7 A. If that's -- yeah, you read that
8 correctly.

9 Q. And this is the depiction that the
10 Agency for Toxic Substances and Disease
11 Registry put forth in the document regarding
12 health risks associated with the consumption of
13 fish in Long Lake, correct?

14 A. Correct.

15 Q. Okay. Doctor, you are -- you have
16 seen no serum PCB levels for any population
17 within the City of Spokane, correct?

18 A. That's correct.

19 Q. You have not seen any serum PCB
20 levels for population of fish consumers from
21 the Spokane River, correct?

22 A. That's correct.

23 Q. Incidentally, you don't know the
24 proportion of individuals who reside in the
25 City of Spokane whose daily intake of PCBs

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2 Q. I want to ask you about your book 3,
3 page 51.

4 A. 151?

5 Q. No. Page 51.

6 A. 51.

7 Q. If you can find page 151, we are
8 talking about a different book 3.

9 MR. LAND: It's just page 51. I
10 think he's just directing you to page 51.

11 BY MR. MILLER:

12 Q. Yeah. Page 51.

13 A. Okay. This page?

14 Q. Yeah. Exhibit 18 on page 51 has
15 exposure assumptions. Do you see those?

16 A. Yes, I see that.

17 Q. Okay. And it uses -- well, first of
18 all, what does this table represent?

19 A. This is a table that was presented
20 in, I think; the 2007 document. So I wanted to
21 be consistent with what I was reviewing from
22 the state. So there are health -- I believe it
23 was from the health consultation 2007.

24 Q. Okay. And how are averaging times
25 used in a non-cancer and cancer human health

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2 risk assessment?

3 A. Well, the averaging time goes on the
4 denominator. And the averaging time is, for
5 non-carcinogens, the time that you live in a
6 certain residence, which would be 30 years.
7 And the averaging time for a cancer would be
8 the number of days in 70 years.

9 Q. Okay. You have an ingestion rate.
10 What is the ingestion rate? And -- generally.
11 Not the specific --

12 A. Yeah. Again, these are not my
13 derived values, but this is 42 grams per day.

14 Q. Okay. And that is what? What does
15 that represent?

16 A. An intake rate, as -- I'm just
17 trying to compare this to the more recent value
18 that the state uses.

19 So the screening levels that the
20 state uses were 59.7 and 175. Okay.

21 Q. Okay. So what is the ingestion
22 rate? What is it intended to capture or
23 express?

24 A. The average daily intake.

25 Q. From -- by whom? The average

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2 individual?

3 A. Yeah, the average recreational
4 angler.

5 Q. Okay. If you were to line up all
6 the recreational anglers in a row, would this
7 be the guy or the woman exactly in the middle?

8 A. That would be the median.

9 Q. Okay.

10 A. That would be the 50th.

11 Q. Percentile.

12 A. 50 percent would be below the
13 median; 50 percent would be above. If it's
14 lognormally distributed data, the median is
15 usually to the left; it's lower than the mean.
16 So the mean and the median concentrations are
17 different.

18 Q. Okay. So this is the average intake
19 rate, not the 50th percentile of intake?

20 A. It depends on the underlying
21 probability density function. If you are
22 dealing with a Gaussian distribution -- and I
23 don't know what the underlying distribution is
24 for anglers -- but if it's a bell-shaped curve,
25 it's a normal distribution, the mean and the

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2 median would be identical.

3 Q. Have you ever seen a distribution of
4 fish consumption that looks like a bell-shaped
5 curve?

6 A. I don't typically look at the
7 distributions.

8 Q. Okay. Have you ever -- well, have
9 you ever plotted a distribution of fish
10 consumption?

11 A. Yes.

12 Q. Okay. And most of the people who
13 live in a community don't fish, and so the --
14 most of the people would have zeros, the amount
15 of daily intake from fish from that community.

16 A. This number doesn't represent the
17 average of everyone in the community of people
18 that don't fish and people that fish.

19 Q. No, I know. I am just talking about
20 in general, right? I mean --

21 A. People that don't eat fish wouldn't
22 be in this distribution.

23 Q. Even people that who do eat fish --
24 the distribution usually is sloped down, isn't
25 it?

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2 A. Sloped -- a lognormally distributed
3 curve is skewed to the right. So you have a
4 lot of people that eat little fish -- and these
5 are anglers; these aren't people that are --
6 this is not the Russian community.

7 Q. I got it.

8 A. Okay. So you take your data and you
9 graph it. And if it's normal distribution, if
10 there's equal number of people that eat a lot
11 of fish and people that don't eat a lot of
12 fish, it would be a bell-shaped curve.

13 Q. So tell me, with respect to this
14 community of anglers in the Spokane River, what
15 does this distribution look like?

16 A. I don't -- that's what I'm saying.
17 I have not plotted the data.

18 Q. Have you even seen the data?

19 A. I have seen the data, but I didn't
20 plot it.

21 Q. Where did you see the data?

22 A. In one of the documents that I
23 briefly reviewed.

24 I didn't recreate the wheel, if
25 that's what you're asking. I didn't start with

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2 the raw data to calculate what the average fish
3 intake -- so I haven't plotted the data. I
4 have not confirmed this as the average value.
5 And this -- it's changed now, so it's not even
6 the same 42.

7 Q. So what percentage of Spokane River
8 anglers consume fish at 42 grams per day?

9 A. I don't know. This is an average.

10 Q. No, I know. I'm just --

11 A. But I don't know if that's an
12 arithmetic average or a geometric average.

13 If --

14 Q. Okay. Do you know what the 10 --
15 the consumption rate is at the lowest 10
16 percent aisle of consumption is?

17 A. No, I don't.

18 Q. How about the lowest 20 percent of
19 consumption? What's that rate?

20 A. I don't know.

21 Q. What about the 30th percentile of
22 consumption?

23 A. Same answer.

24 Q. How about the 50th percentile?

25 A. Same answer.

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2 Q. How about the 90th percentile?

3 A. Same answer.

4 Q. 95th percentile?

5 A. Same answer.

6 Q. Do you know how many consumers of
7 Spokane River fish consume over the advisories
8 that we've talked about earlier today?

9 A. Do I have a numerical estimate of
10 the people that -- I wouldn't even know where
11 to get that information.

12 Q. Okay.

13 A. If they are certainly not adhering
14 to the advisories, they're not going to be in
15 the survey. That information would not even be
16 available.

17 Q. Do you --

18 MR. MILLER: Move to strike after "I
19 don't have a numeric estimate of the
20 people."

21 BY MR. MILLER:

22 Q. Do you have an estimate of the
23 percentage of Spokane River anglers that
24 consume fish over the advisory levels that we
25 talked about earlier today?

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2 A. No.

3 Q. Would you even know how to generate
4 such an estimate?

5 A. Repeat your question again.

6 Q. Would you even know how to generate
7 such an estimate?

8 A. Such an estimate couldn't even be
9 generated. If people are eating more fish than
10 the -- or if they're exceeding the recommended
11 amount, number one, they're unlikely to admit
12 that in a survey; number two, how would you
13 identify those folks who know generally, based
14 on my professional experience at these sites --
15 sites similar to this, they don't know the
16 recommended amount for each species. So if
17 they catch a trout, for example, they don't run
18 back to their truck and see how many fish they
19 can eat.

20 This is a general rule of thumb as
21 it's applied in reality. So you were talking
22 about hypothetical just a second ago. People
23 have a general idea of what type of fish pose
24 the highest risk, the bottom feeders. But
25 other than that, you know, these are general

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2 guidelines.

3 Q. All right. So you would not know if
4 it's possible to generate an estimate of the
5 number of people or the proportion of anglers
6 who consume over an advisory limit, correct?

7 A. I wouldn't even know how to identify
8 those people.

9 Q. Okay. You have said that the ATSDR
10 and the Washington Department of Health fish
11 advisories throughout the years have been
12 consistent and scientifically tenable, relying
13 on the best available measurements of fish
14 tissue, PCB data, as well as toxicological and
15 exposure information available at the time,
16 correct?

17 A. That's what I stated.

18 Q. Okay. Can you tell me how the 42
19 grams per day ingestion rate used by ATSDR and
20 WDOH was derived?

21 A. No. Have I looked at the underlying
22 document? Yes. I haven't done an independent
23 analysis of how that average concentration was
24 calculated. If that's your question, that's my
25 answer.

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2 Q. Well, I wanted to know because I am
3 confused where the 42 grams per day comes from.

4 A. Well, what you just read -- the
5 citation you just read from my report and you
6 asked me if it was correct.

7 Q. Yeah.

8 A. There is a key phrase in there, and
9 it says based on the best available information
10 at the time.

11 Q. Yeah.

12 A. The ingestion rates have changed
13 over time, the assumptions that they're using
14 to calculate risk and derive fish advisory
15 levels, those have changed.

16 And I was just looking for the most
17 recent value here in Dave McBride's document.
18 So if you want me to find it, I will. But they
19 have changed over time.

20 Q. What factors go in to why ingestion
21 rates change over time for a population?

22 A. What factors?

23 Q. Yeah.

24 A. You take surveys.

25 Q. Yeah, but what are the factors that

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2 affect a population's change in ingestion
3 rates?

4 A. What are the biological factors?

5 You say factors. You take a survey. You call
6 up 8,000 people: How much fish do you eat? Or
7 you show them a portion size. Is this the
8 amount that you eat in a meal?

9 I mean, these are not -- you know,
10 with all due respect to the folks that carried
11 these out, this is not brain surgery. You are
12 trying to get a gauge on how much fish people
13 eat.

14 Q. I understand.

15 A. Okay.

16 Q. I'm just asking, what are the
17 factors that you believe affect a population's
18 ingestion rate of locally caught fish over
19 time?

20 A. They're based on, typically,
21 surveys.

22 Q. I understand what they're based on.
23 But what I'm getting at is, are there factors
24 such as availability of other nutritional
25 options? Is it that people have other

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2 activities that they prefer to engage in than
3 angling?

4 I mean, there are factors like that
5 that would account for why ingestion rates over
6 time change.

7 A. I don't look for the fact -- I have
8 never done an analysis of the factor that lead
9 to the change. I want to know what the fish
10 ingestion rate is. Unless I am conducting a
11 sociological analysis of why these -- you are
12 asking me for why these change.

13 Q. And you have not studied it?

14 A. I have not studied it.

15 Q. That's fine. Okay. So you wouldn't
16 be able to tell me in this particular community
17 why the ingestion rate has changed from 42
18 grams per day to whatever it is that ATSDR or
19 the Department of Health now uses as the
20 ingestion rate?

21 A. I can tell you what my experience
22 has been at other sites. I can't tell you what
23 the underlying factors are here. But I know at
24 other sites, when the plant closes down and 600
25 people are out of work and they've got to feed

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2 their families, they start doing things in
3 their community to supplement their diets.

4 So that is a socioeconomic factor
5 that has driven people to -- to go from maybe
6 42 grams a day up to, you know, five fish meals
7 a week, because they don't have a job.

8 Q. Right. Now, in this population, the
9 ingestion rate has fallen from 42 grams per day
10 to something lower, correct?

11 A. Well, if you'll give me a second, I
12 can find that information. I haven't followed
13 the ingestion -- my document was primarily
14 focused on the veracity of the health
15 consultations. I did not do an independent
16 analysis of the changing fish ingestion rates.

17 Q. Okay. If you haven't done the
18 analysis, fine.

19 A. Well, I don't know if that's --

20 Q. Okay.

21 A. You asked me for the socioeconomic
22 factors that are driving that.

23 Q. And if you don't know, that's fine.

24 A. Yeah, I don't know --

25 Q. Okay.

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2 A. -- here.

3 Q. That's all you have to do.

4 A. Okay.

5 Q. All right? You don't have to
6 quarrel with me about the validity of the
7 proposition in the first place.

8 Can you find the ingestion rate that
9 the Department of Health now uses?

10 A. As of 2013 -- well, let me see what
11 McBride states. He's got the screening levels,
12 which we've already talked about. Right? So
13 you've got those. And that was 59.7 and 175
14 for the average and the high-end subsistence.

15 The meal size here are -- he's got
16 at .227 kilograms, so I would have to do a
17 conversion there. So let's see if he gives us
18 a number. I don't know what the current level
19 is, and I don't think he has stated it in his
20 report. So the answer is I don't know the
21 answer to that question. I don't know what the
22 current fish consumption rate is post-2013.

23 Now, on page -- well, in McBride's
24 document, the DOH document, he has a page --
25 and this is not -- this doesn't have a page

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2 number, so I am just showing you the page. And
3 the page is titled, "Why the change." And this
4 discusses the change in fish consumption rates.

5 So if you want to take a look at
6 this, this is what I'd say. So that's the
7 change. And he's comparing it to Oregon.

8 Q. Those aren't actual intake rates,
9 are they?

10 A. These are -- what do you mean? This
11 is used in Washington, used in Oregon.

12 Q. Wait. So we're trying to answer the
13 question what is the current ingestion rate
14 that is used by DOH in its risk assessments.
15 It has moved from 42 to something else. We're
16 trying to establish what that something else
17 is.

18 A. I am trying to tell you that I gave
19 you the fish advisories based on a download
20 from their site, the 2019 fish advisories,
21 which they have not produced a supporting
22 document yet. I don't know what those fish
23 consumption rates are because they have not
24 produced the documents to support those new
25 fish advisories.

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2 Q. Okay. But it's your understanding
3 that it's something less than 42 grams per day?

4 A. I don't -- I don't have an answer.

5 Q. Well, look at Exhibit 3.

6 A. Okay. This is 2013.

7 Q. Right. Do you have page 72?

8 A. I have to find the whole document.

9 200-what?

10 Q. Page 72.

11 A. Oh, 72.

12 Q. It's table 32 entitled, fish
13 consumption information relevant to Washington
14 and considered by ecology.

15 A. Yes.

16 Q. Do you see where it says Lake
17 Roosevelt, DOH?

18 A. Yes.

19 Q. Okay. And it refers to a
20 footnote J?

21 A. Yes.

22 Q. And it says, Washington, DOH, 1997.

23 A. Okay.

24 Q. All right. Now, it reads, "DOH, in
25 cooperation with the Spokane tribe, water body

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2 and angler-specific creel survey, 42 meals per
3 year, assuming eight-ounce meal, this is
4 approximately 26 grams per day."

5 A. I think that should be 32. Is that
6 what you're getting at? I don't know.

7 Q. Well, it says 26 grams per day,
8 doesn't it?

9 A. It does.

10 Q. All right. Now, that's different
11 than 42 grams per day, correct?

12 A. That's for Lake Roosevelt, yes.

13 Q. Okay. And it's derived from the
14 2007 -- I'm sorry -- the 1997 Washington DOH
15 study which we've, I think, talked about
16 before.

17 A. Yeah, that's 1997. I thought you
18 were asking me what the current fish
19 consumption rates were that underlie the
20 current fish advisories. I thought that was
21 the question.

22 Q. Right. And what is it?

23 A. I don't know. They haven't produced
24 the document yet. And that's all I was trying
25 to say.

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2 Q. Okay. All right. That's fine.

3 So -- but you've put in your report the
4 ingestion rate in table -- or Exhibit 18, the
5 assumptions was 42 grams per day. I want to go
6 back to that. I understand that it's changed.
7 But 42 grams per day. That's the intake rate
8 that's used in the Department of Health and
9 ATSDR risk assessments, correct?

10 A. Yes.

11 Q. Okay. Now let's go back to where
12 that comes from. Now -- let's go to the Lake
13 Roosevelt survey.

14 A. Wait. What document are you on now?

15 Q. I am going to go to --

16 A. Are we in the same --

17 Q. Let's go to the ATSDR 2005 document.

18 MR. LAND: Do you know if you have
19 marked that as an exhibit?

20 MR. MILLER: I'm sure we have.

21 THE WITNESS: All right. I've got
22 it.

23 BY MR. MILLER:

24 Q. Okay.

25 A. Okay.

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2 Q. The ATSDR 2005 document --
3 Exhibit 12?

4 MR. CROMWELL: Yes.

5 BY MR. MILLER:

6 Q. Okay. Let's see where they say that
7 42 grams per day comes from.

8 MR. LAND: 2005?

9 MR. MILLER: Yeah.

10 BY MR. MILLER:

11 Q. So if I look at page 5 -- point me
12 to where this is. Because I'm --

13 A. I think you're looking at the
14 footnote. Assuming that a meal size is eight
15 ounces, that's 42 grams per day. So that --

16 Q. Oh, I see. Go to the paragraph
17 "populations of concern."

18 A. Okay.

19 Q. It reads, "Therefore, recreational
20 consumption rates were used to estimate
21 exposure to contaminants in Long Lake fish.
22 Average and high-end consumption rates of 42
23 and 90 grams per day of fish were derived from
24 a survey of Lake Roosevelt anglers and were
25 used as the most appropriate estimate for Long

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2 Lake anglers."

3 And then it refers to B. Do you see
4 that?

5 A. Yes.

6 Q. Okay. So 42 grams per day -- all
7 right. Assuming that a meal size is eight
8 ounces, 42 grams per day would be about one
9 meal per week, about ten ounces. And 92 grams
10 per day is almost three meals per week, or 22
11 ounces. I got that right?

12 A. Yes.

13 Q. Okay. So if we go then to the Lake
14 Roosevelt angler survey -- that's the '97
15 survey, correct?

16 A. Are you referring to the document
17 that I brought?

18 Q. No.

19 A. Well --

20 Q. What --

21 A. To -- the technical supporting
22 document is the one I brought.

23 Q. Well, no. We've marked this as an
24 exhibit, the Lake Roosevelt survey of
25 anglers --

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2 MR. LAND: I think he is talking
3 about this one.

4 MR. MILLER: Right.

5 BY MR. MILLER:

6 Q. -- is the 1997 --

7 A. Oh. You are talking about the
8 supporting document for the one that I brought?
9 All right.

10 Q. Yeah.

11 A. So you want to go back to the
12 original data?

13 Q. Well, I want to go back to that
14 original study, because that's where this 42
15 grams per day comes from.

16 A. Yeah, and I just -- I just -- you
17 haven't asked the question, but I already
18 stated I haven't read that document.

19 Q. Well, take a look at it, Exhibit 19.

20 A. Okay.

21 Q. And looking at this particular
22 document, the number 42 --

23 A. Wait. What page are you on?

24 Q. Oh, I'm sorry. I'm in the abstract.

25 A. Okay. Got it.

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2 Q. All right. It says, "Fish
3 consumption survey was conducted at Lake
4 Roosevelt during 1994 and 1995 to determine the
5 consumption patterns of anglers who repeatedly
6 fished the lake."

7 It goes on, "These data were
8 gathered in an effort to determine fish
9 consumption patterns for the population of
10 concern, those who -- those who consumed the
11 greatest amount of fish, in order to assess the
12 public health impacts associated with ingestion
13 of chemically contaminated fish. Inherently,
14 all [sic] populations consuming fish less
15 frequently (or in lesser quantity) will also be
16 protected. Surveyed individuals were primarily
17 older adult Caucasian males that are part of
18 two-adult households in which both individuals
19 consume fish. The results indicate that
20 surveyed anglers consume an average of 42 meals
21 per year, with greater than 90 percent
22 consuming 103.2 meals (or two meals per week),
23 or less per year."

24 Okay. This indicates to me that the
25 42 grams per day isn't accurate, but that they

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2 transposed 42 meals per year into grams per
3 day.

4 A. I have no -- I have no basis to
5 answer that. As I told you, I haven't read
6 this document. I haven't plotted the data.
7 But what is more important to me is if you look
8 at the rest of that sentence, with greater than
9 the 90 percent consuming 103 meals -- that's
10 two meals per week. Well, with the current
11 fish advisories, we are down to, in some of
12 these places, one fish meal per month. So
13 whatever the fish ingestion rate is -- well --

14 Q. Okay. But --

15 A. I -- I am not -- again, I have to
16 restate this -- and I have said it several
17 times -- I am not concerned about the average.
18 No public health professional would be
19 concerned about the average. So I can't answer
20 your question where the 42 -- I would have to
21 spend a considerable amount of time, and you've
22 only given a portion of the document, I think.

23 Q. I don't think so.

24 A. But it does show here that people --
25 I mean, these are really rough -- look at how

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2 they provide this information. How many meals
3 per week? How big was the -- you know, months
4 per year did you eat? I mean, these are all
5 self-administered, and people are not weighing
6 their fish before they eat it. So I don't know
7 the answer to your question.

8 MR. MILLER: Okay. So I will move
9 to strike everything after "I have no basis
10 to answer that." Because anything you
11 answered after "I have no basis to answer"
12 is an answer to a question I haven't asked.
13 So I am going to move to strike that.

14 THE WITNESS: Okay.

15 BY MR. MILLER:

16 Q. As you sit here today, can you tell
17 me where 42 grams per day or 90 grams per day
18 for the upper consumers comes from?

19 A. No.

20 Q. Now, in your report, you said that
21 ATSDR and the Washington Department of Health
22 used the best available measurements of tissue
23 and exposure information. And if you can't
24 tell me where this ingestion rate comes from,
25 how can you tell me that that's the best